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## **HURRICANES IRMA AND MARIA MANAGEMENT REPORT**

*Information contained in this report reflects HQ and regional reporting from the most recently completed operational period as well as other reports provided by HQ, regional and interagency sources.*

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### **National Incident Management Objectives**

Objective 1: Ensure that health and safety of the EPA responders is considered at all times.

Objective 2: Establish an incident management structure and processes employing the Incident Command System to enable effective overall management of the event with deployment of resources (staff and equipment) in a rapid, aggressive and well-coordinated manner.

Objective 3: Ensure prompt review and processing of fuel waiver requests.

Objective 4: Prepare for and provide rapid assessment of industrial facilities as requested by the State or under EPA's statutory program responsibilities for CERCLA Superfund, RMP and FRP facilities. Working with our state partners, contact industrial sources within the impacted area to determine their operational status and determine what support can be provided with the monitoring of the start-up of industrial sources.

Objective 5: Prepare for and provide rapid assessment of & technical assistance to drinking water & wastewater facilities, as requested by the State or local government. EPA will support our state partners in contacting drinking water and wastewater systems.

Objective 6: Prepare a Sustained Response Plan that outlines the resource and equipment needs for a long duration response.

Objective 7: Activate the Agency's Crisis Communication Plan to ensure effective and efficient coordination of all incident communications.

Objective 8: Encourage a collaborative federalism approach, where national, state and local governments interact cooperatively and collectively to solve common problems.

Objective 9: Begin Agency internal and external coordination under the National Disaster Recovery Framework regarding Recovery Support Functions in which EPA is likely to be involved.

## **Region 2 Incident Objectives**

- The health and safety of our responders is our highest priority. Develop health and safety messages daily for all field operations;
- Ensure health and safety of the public by conducting environmental assessments and operating in accordance with approved site safety plans;
- Continue coordination with OSCs deployed at the FEMA JFO in San Juan, PR;
- Continue coordination with OSCs deployed to the JFO on St. Croix;
- Coordinate with CEPD, prioritize and perform drinking water and waste water assessment targets in Puerto Rico and the USVI;
- Continue integrating Puerto Rico Department of State (PRDOS), Puerto Rico Department of Justice (PRDOJ), and Non-Governmental Organization (NGO) personnel into the non-PRASA assessment teams;
- Coordinate all field activities with CEPD program office staff and FEMA division coordinators. Support CEPD operations that are within the scope of the FEMA mission assignments;
- Support USCG sunken vessel recovery operations and coordinate operations with ESF10 partner USCG;
- Coordinate and prepare for air monitoring operations in support of the USACE air curtain incineration operations in Puerto Rico and the USVI;
- Continue coordination in support of the collection of household hazardous waste/ e-waste/ white goods in Puerto Rico and the USVI;
- Continue coordination in support of removal and disposal of medical wastes in the USVI;
- Continue drinking water sampling as coordinated and prioritized with DPNR in the USVI; and
- Continue developing and implementing a full staffing plan to increase the response effort to meet the FEMA mission assignments and then for continuous operation in Puerto Rico, USVI, and in the REOC.

## **Executive Summary**

### **Region 2**

- Power remains out for a large percentage of the residents of Puerto Rico (PR) and the United States Virgin Islands (USVI). In PR, improvements are frequently offset by collapses in parts of the power system. USVI anticipates restoration of power to 90% of clients by the end of December 2017. PR Governor Rossello has set a goal for end of December for PR as well, but the United States Army Corps of Engineers (USACE) doubts this schedule can be met. USACE considers 75% restoration by late January a more likely timeframe.
- The Puerto Rico Electric Power Authority (PREPA) reports that 31.6% of its facilities are without power generation capacity in PR.
- In PR, about 7% of the population is still not receiving drinking water through the utility system. Comparable data for the USVI is not available, but the population is reportedly being provided with adequate supplies of drinking water.
- In PR, 4% of the sewage treatment plants are still not operational. Numerous raw sewage discharges entered waterways upstream of drinking water intakes. EPA, the Centers for Disease Control (CDC), and PR Department of Health (DOH) advised residents not to bathe in surface waters.
- EPA continues to coordinate with FEMA, USACE, the Commonwealth of PR, and other partners on field operations, assessment of fixed facilities, debris management, drinking water infrastructure, and data management. EPA is coordinating with The United States Coast Guard (USCG) for Marine Branch operations and hazardous material related to sunken vessel recovery.

### **[This is the final update on Region 4 Hurricane Irma Response Efforts]**

### **Region 4**

- In total, EPA Region 4 recovered 146 vessels in the Marathon Key area and transported them to Florida Fish and Wildlife Commission staging areas. No vessels remain to be addressed within EPA's area of responsibility. USCG will continue vessel operations as EPA completes its demobilization.
- EPA concluded waste removal from vessels.
- EPA also concluded transporting containerized hazardous materials to the Florida Keys Marathon International Airport staging area for bulking and shipping

to appropriate Treatment, Storage, and Disposal Facilities.

- EPA will continue to support data management activities for removal, staging, and recovery operations until USCG can contract data management expertise.

### Active Regional Mission Assignments (MAs) and Funding

FEMA plans to extend all current Region 2 MAs through February 28<sup>th</sup>, with no additional funding planned at this time.

EPA Region	Mission Assignment Number	Funding Amount	Description of Assignment
Region 2	4339DR-PR-EPA-04	\$6,000,000	To deploy personnel to coordinate and execute all necessary assessments, evaluations, sampling and analysis services/support and other necessary actions associated with ensuring the safety and quality of DW and WW systems, in support of PRASA, Puerto Rico Department of Health (PRDOH).
	4335DR-VI-EPA-04	\$10,000,000	Conduct oil and hazardous materials field operations, including cleanup and disposal of hazardous materials and oil, and response to orphaned containers in order to mitigate actual and potential threats to public health and safety.
	4339DR-PR-EPA-01	\$603,000	EPA to FEMA NRCC or PR JFO/EOC EPA requested additional funding for MA 4339DR-PR-EPA-01.
	4339DR-PR-EPA-03	\$23,000,000	Removal, cleanup and disposal of oil and hazmat; collect and dispose of HHW; monitor immediate threats to public H&S and the environment in PR
	4340DR-VI-EPA-05	\$8,000,000	Removal, cleanup and disposal of oil & hazmat; collect and dispose of HHW; monitor immediate threats to public H&S and the environment in the VI
	4340DR-VI-EPA-06	\$1,800,000	Coordinate/Execute all necessary assessments, evaluations, sampling and analytical services/support to ensure the safety and quality of public drinking
	4340DR-VI-EPA-01	\$255,000	EPA to FEMA NRCC or USVI JFO/EOC
	4340DR-VI-EPA-04	\$5,300,000	EPA to RRCC, JFO, EPA REOC, State EOC and other coordination venues to support FEMA response operations in the USVI.
Region 4	4337DR-FL-EPA-14-01	\$12,049,231	Provide oil and hazardous material field response
	4337DR-FL-EPA-15	\$408,814	Landfill Specialty Team
<b>Total Active MAs</b>	<b>\$67,416,045</b>		

### Total Number of Regional Personnel Involved in Response (as reported on by Region 2 on December 13<sup>th</sup> and Region 4 on December 12<sup>th</sup>)

- This is the final report with data on Region 4 staffing.

Type	R2 Personnel	R4 Personnel	Total Regional Personnel
<b>EPA*</b>	172	7	179
<b>Contractors</b>	218	12	230
<b>Totals</b>	390	19	409

\*These numbers include Region 2 CEPD personnel

### Force Laydown for USVI and PR (as reported by Region 2 on December 13<sup>th</sup>)

Type	USVI Personnel	PR Personnel	Total Deployed
EPA*	29	68	97
Contractors	109	87	196
Totals	138	155	293

*\*These numbers include Region 2 CEPD personnel*

### Region 2 Significant Activities

- On December 11<sup>th</sup>, EPA's Incident Command attended a meeting at the Puerto Rico Aqueduct and Sewer Authority (PRASA) Headquarters to discuss the need for additional EPA assistance.
- EPA plans to attend FEMA-scheduled meetings during the week of December 18<sup>th</sup> with four municipality mayors and staff (Barranquitas, Morovis, Nanrajito, and Orocovis).
- The December 9<sup>th</sup> the HHW collection event at a USVI Home Depot was a great success. More than 100 cars dropped off more than 1,750 HHW items. EPA CICs continue outreach efforts for similar events planned for the next three Saturdays at this location.
- EPA CICs are working with radio stations in PR and USVI to promote existing municipal pads and HHW collection opportunities.
  - EPA CICs arranged a radio appearance at a local station in Coamo, PR. EPA will appear on the show in two weeks with the mayor of Coamo to promote the municipal pads and their locations. EPA CICs are visiting radio stations in other municipalities to arrange additional appearances.
  - In USVI, the station manager at Virgin Island Radio agreed to run a 60 second public service announcement (PSA) on HHW collection. The PSA will run on all five stations, 10 times a day, seven days a week, for four weeks.
- EPA continues to coordinate with Puerto Rico Department of Health (PRDOH), PR Environmental Quality board (EQB), and the Puerto Rico Aqueduct and Sewer Authority (PRASA) regarding analytical laboratory services. A FEMA MA is in place to assist with funding the PR EQB and PRDOH labs with needed repairs, supplies, equipment, and personnel to come back into service.
  - Construction on the emergency generator concrete pad began on December 7<sup>th</sup>. The concrete is now curing, and EPA anticipates that this process will take 28 days, depending on humidity.
  - EPA reviewed the list of reagents, supplies, standards, and containers that the laboratory needs to continue and commence functionality.

### Drinking Water/Wastewater (DW/WW) Assessments in PR

Non-PRASA drinking water facilities serve approximately 4% of the PR populations (PRASA systems service the other 96%). EPA, the Caribbean Environmental Protection Division (CEPD), and USACE assessed non-PRASA drinking water systems in rural areas of the West and South Branch for infrastructure repair needs. All assessments are complete and EPA expects to share a report on the work within the next two weeks.

EPA staff are also participating in ongoing PRASA water treatment plants (WTPs) and wastewater treatment plant (WWTPs) assessments:

- 5 of the 115 WTPs operated by PRASA are out of service.
- 72 WTPs are working on alternate power and 38 on primary power.
- 7 percent of the population is without drinking water services due to the lack of primary power, lack of diesel, operational problems, or clogged intakes.
- 1 of the 51 WWTPs operated by PRASA are out of service.
- 25 WWTPs are working on primary power
- PRASA operates at least 714 sanitary pump stations. As of December 13<sup>th</sup>, at least 63 sanitary pump stations are overflowing sewage due to lack of power, malfunctioning power generators, or pumping problems. 19 of these are located upstream of a water supply intake.

## Drinking Water/Wastewater Assessments in USVI

- DPNR has suspended the compliance monitoring required for public water systems under the Territorial Safe Drinking Water Regulations during this hurricane aftermath emergency period. Currently, DPNR anticipates this suspension to last through December 2017. During the emergency period EPA and DPNR are sampling public water systems and some other facilities (limited number) by special request.
  - In STX, EPA assessed drinking water and conducted sampling at 20 locations.
  - In STT and STJ, EPA visited 30 public drinking water systems and collected 27 samples.
  - An EPA team meet with DPNR to discuss drinking water testing notifications. EPA CICs are developing information packets to communicate test results to facilities.
- All 8 WWTPs are in service.
- USVI owns and operates 30 lift stations, 3 of which are out-of-service.

## PR and USVI Debris Recovery

- In Puerto Rico, EPA continued worked to establish regular collection routes for HHW pickup, establish municipal staging areas, and assessments of hazardous debris.
  - EPA CICs continue outreach to 8 communities without access agreements.
  - On December 10<sup>th</sup>, EPA completed hazardous categorization operations for unknown containers at the Salinas collection pad.
  - After assessing a potential municipal site pad in Ponce, PR, EPA recommended that the site not be used due to its location by a waterway, nursing home, and medical urgent care facility.
- There are 20 approved staging/disposal areas for HHW in PR and 7 approved staging areas for HHW in USVI.
  - After public complaints about increased rat population and bad odors near the Naguabo Collection Pad, a local television news crew came to the area to interview individuals at a nearby school and bakery. EPA did not grant the reporters access to the pad. EPA will meet with the mayor on December 18<sup>th</sup> to discuss the issue.
- In USVI, FEMA and USACE announced that staging areas for all types of debris are reaching capacity. FEMA informed USVI that all vessel operations and debris activities may cease as soon as the end of this week unless USVI identifies sites for debris storage, reduction methods, percentages, executed permits, and disposal locations. Addressing the debris issue is a priority for FEMA management.
- USVI Department of Planning and Natural Resources (DPNR) issued a permit for air curtain incineration (ACI) on December 8<sup>th</sup>. EPA found that several conditions in the permit require modification. EPA commented on the permit to clarify ash sampling plans and to provide an alternative method for addressing excavated soil from trenching operations.
  - FEMA External Affairs asked EPA to participate in a meeting on ACI on December 15<sup>th</sup>. EPA plans to discuss air monitoring for 20 minutes.
- EPA collected over 1,000 items of electronics waste across several locations in USVI.
- As of December 11<sup>th</sup>, there are 1,107 bags of normal medical waste and 1,519 sharps containers pre-staged for future removal in USVI.

## Orphan Container, Pollution Response, and Vessels in PR and USVI

- As of December 13<sup>th</sup>, EPA Region 2 had removed a total of 34,279 containers in PR and 23,128 in USVI.
  - One EPA team supported USCG continuing salvage operations in Cataño. USCG is unable to salvage a vessel after repeated attempts using a lift bag and pumps. Since the vessel was left submerged, the team conducted an Inspection and no sheen or odors were observed. This vessel will be revisited when additional equipment becomes available.
  - EPA supported USCG while they conducted dive operations for one vessel in San Juan harbor.
  - In PR, EPA and USCG continued citizen engagement, target vessel identification outreach and pollution mitigation efforts on identified actively leaking targets.

- In USVI, EPA continues to support USCG efforts related to sunken vessel recovery, sunken/abandoned vessel target identification, and placement of target notification stickers on newly identified vessels.

Vessel Assessments (as of December 12 <sup>th</sup> )		
Location	Vessels Assessed	Vessels Closed
Puerto Rico	359	154
U.S. Virgin Islands	466	131

#### **EPA Headquarters Significant Activities**

- The Headquarters Emergency Operation Center (HQ EOC) has been assigned recurring positions to fill and is supplying personnel to support the Region 2 response.
- EPA finalized the story map on the Hurricane Maria Response:  
<https://epa.maps.arcgis.com/apps/MapJournal/index.html?appid=051533ab716c4f5e821dc361cbb1876f>.
- HQ EOC is operating under a partial activation in support of regional response efforts to Hurricanes Irma and Maria. The HQ EOC is physically staffed with 4 EPA personnel and 1 contractor and is coordinating on several levels with EPA Regions 2 and 4, as well as other federal agencies.
- EPA Senior Management on the Policy Coordination Committee (PCC) are holding calls every 10 days to discuss issues, highlights, and adherence to the management objectives.

#### **Other EPA Activities**

- On December 12<sup>th</sup>, EPA issued the news release, EPA Teams Up with Non-Governmental Organizations to Help Restore Drinking Water to Communities in Puerto Rico.
- EPA is evaluating a variety of force majeure claims from a number of entities in PR and USVI on a case-by-case basis and preparing responses as appropriate.
- Region 2, Region 4, and HQ activities related to Irma and Maria response efforts are available at: [www.epa.gov/hurricane-irma](http://www.epa.gov/hurricane-irma) and [www.epa.gov/hurricane-maria](http://www.epa.gov/hurricane-maria), respectively.
- Members of the public can call 1-888-283-7627 (which has English and Spanish capabilities) with questions about household hazardous waste.
- On October 6<sup>th</sup>, EPA HQ issued No Action Assurances (NAAs) to PREPA to provide relief from certain Clean Air Act requirements, including emission limits, hours of operation limits, fuel usage restrictions, and restrictions on the shutdown or bypass of pollution control equipment for most of their electric generating units operating in PR. EPA reissued the NAA on November 17<sup>th</sup>; the new expiration date is January 1<sup>st</sup>.